USAID FIRMS PROJECT

Paper Board Manufacturing Unit

Pre-Feasibility Report

September, 2014

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Data Page

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Abstract:

The USAID Pakistan Firms project aims to assist the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) in promoting investment and trade in the province. In an effort to achieve this aim preliminary feasibility studies have been conducted in order to highlight the investment opportunities available for international and domestic investors. The focus of these preliminary feasibility studies has been kept on the high economic growth sectors in KPK.

This report is a part of series of pre-feasibility studies conducted for identified projects. The information used for the preparation of this report has been gathered from various reliable sources including economic and statistical surveys carried out by the government of Pakistan. Competitor's data and industry averages have been used as a basis for the preparation of preliminary financial projections.

This report provides a financial and economic analysis of the opportunities available in the sector and identifies the potential technical strengths and constraints that may be encountered by the investor(s) in undertaking the identified project. It aims to help the reader develop an understanding of the operational aspects of the sector and its growth potential in the country particularly in the Khyber Pakhtunkhwa province. An outline for a business plan has been prepared for the identified project which identifies the operational requirements (equipment, human resource, infrastructure etc.). The analysis is supported by preliminary financial projections for the first ten years of the business.

Acronyms

ADB	Asian Development Bank
ADR	Alternate Dispute Resolution
AIP	Annual Implementation Plan
AMP	Award Management Plan
BEE	Business Enabling Environment
COP	Chief of Party
COTR	Contracting Officer's Technical Representative
DEDS	District Economic Development Strategies
EG	Economic Growth
EU	European Union
FATA	Federally Administered Tribal Areas
FLB	Fruit Logistica Berlin
FSN	Foreign Service National
FY	Fiscal Year

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Executive Summary

Chemonics International is implementing the USAID Pakistan Firms Project that works to develop a dynamic internationally competitive business sector to accelerate sales, increase exports, investment, job growth and produce higher value added products and services. Within the business-enabling component, the project has initiated an assistance program for the Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) to help it meet its mandate promoting investment and trade in the province. The KPBOIT was created with a mandate to advocate specific investment friendly reforms and advise the KP government regarding the provision of adequate infrastructure facilities for making the KP Province business environment more conducive to international investment.

The Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) is considering development of a Paperboard Manufacturing Unit.

The project will be offered to the investor(s) selected through competitive bidding process. Identification of land and obtaining requisite approvals from the provincial government for construction of the proposed facility in the area XYZ will be the responsibility of KPBOIT. The investors will be provided land on lease basis, whereas, construction and operations of the Plant will be managed by the investors. The construction of Plant would be subject to pre-conditions with respect to design approval, minimum standards to be followed etc. which will be detailed in the project RFPs to be launched at a later stage.

This pre-feasibility has been based on a series of assumptions with respect to design, size, costs, revenues, returns etc. However, these are indicative only and the investors might require to carry out their own feasibility studies.

Results of Financial Pre-Feasibility

The results of this financial pre-feasibility indicate that development of a paper board manufacturing unit, with installed annual processing capacity of 14,000 tons, will be a profitable financial investment.

The results of this financial pre-feasibility indicate that the project is capable of generating following results:

- **Equity IRR of 22.5% and**
- **Project IRR of 19.1%**

Following are the key assumptions/considerations for the investors which were used in this pre-feasibility and which form basis of projected returns from the project:

Total project outlay is estimated at PKR 179 million (including PKR 15 million for working capital requirements), financed through 40% equity and 60% debt. Total equity contribution will be required at PKR 71.7 million.

- The cost of equity has been assumed at 15%, whereas, cost of debt is estimated at 10.5% with a spread of 3%.
- The project is expected to be operational from Year 1
- The facility will comprise of a building constructed on an area of 20,000 sq.ft

- Cost estimates are based on cost structures in comparable facilities in the country.

1. Project Background & Rationale

1.1 Introduction

In 1947 when Pakistan came into existence, there was not a single plant to manufacture paper in the country. All the requirements of the paper in the country had to be met through imports. Pakistan Industrial Development Corporation (PIDC) was set up for the establishment of different industries including paper mill in public sector.

The Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) has conceived the idea to develop a Paperboard Manufacturing Unit in KPK. Land for the project is being identified and will be offered for investment to facilitate investors willing to avail this opportunity.

1.2 Introduction to KPBOIT

Khyber Pakhtunkhwa Board of Investment and Trade (KPBOIT) is established for the promotion of trade and investment activities in Khyber Pakhtunkhwa (KPK). Government of Khyber Pakhtunkhwa is committed to bring economic prosperity in the Province through industrial and trade development and delegated this role to KPBOIT.

KPBOIT has accepted this challenging task towards achievement of its mission under the leadership of a dynamic Board Members comprising of eminent people of public and private sectors.

High motivation and commitment is there to achieve the vision to flourish the investment and trade in Khyber Pakhtunkhwa making it most favorite investment destination for investors.

Our land is blessed with abundance of natural resources of Oil & Gas, Hydel Power Generation, Tourist Destinations, Mines and Minerals along with Agriculture. The Province is located at an outstanding geographical location.

KPBOIT is striving for exploiting the tremendous potential of the Province into reality and is focused on meeting its important objective of facilitating local and foreign investors desirous of benefiting from this huge potential of the KPK. Our aim is creating an attractive business environment through proactive policy advocacy both at the Provincial and Federal level. Another important role of awareness among investors is to the tremendous opportunities available for investment in KPK and therefore facilitating them for undertaking such investment as a joint venture partners.

We also act as a focal point of contact for both foreign and domestic investors providing information and assistance in coordination with other Government Departments and Agencies.

KPBOIT’s objectives are:

- To flourish and revive the investment climate of Khyber Pakhtunkhwa and to make it a lucrative investment friendly destination.
- To provide one window operation facility to investors by proactively engaging with all stakeholders to ensure successful investments.
- To act as a bridge between investors and all related government and semi Government Departments/Organizations.

Advise the Provincial Government to create environment for investment through advocacy of specific investment friendly and comprehensive Public Private Partnership policies.

1.3 Overview of the Paper Industry in Pakistan

The paper industry has different units across the country producing various grades of papers, using local and imported raw materials. Unfortunately, due to poor planning in 1980's and 1990's, many of the units are lying closed from that time. At present, in Pakistan there are about 100 units in the organized and unorganized sectors. These units produce Writing and Printing Paper, Wrapping and Packing Paper, White duplex coated, Un-coated board, chip Board and other board.

Table 1: Group wise growth and Point Contribution rate of LSM for the Period of July-March 2013-14 Vs July-March 2012-13

Groups	Weights	% Change July-March		% Point Contribution	
		2012-13	2013-14	2012-13	2013-14
Paper & Board	2.31	17.82	8.03	0.41	0.19

Source : Pakistan Economic Survey 2013-2014

Forest Area of Pakistan

The fiber for paperboard is derived from naturally occurring species which provide fibres with suitable characteristics. Pulp from fast-growing softwood trees such as spruce, pine and larch is used to make one layer of paperboard. Another layer consists of pulp from hardwoods like aspen, birch and eucalyptus.

Forest area (% of land area) in Pakistan was last measured at 2.19 in 2010, according to the World Bank. Forest area is land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems (for example, in fruit plantations and agro-forestry systems) and trees in urban parks and gardens.

Table 2: Forest area (% of land area)

Area	1990	2000	2010
Forest area (sq. km) in Pakistan	25270	21160	16870
Forest area (% of land area) in Pakistan	3.3	2.7	2.2

Table 3: Forestry growth percentages

Sector	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Forestry	8.9	2.6	-0.1	4.8	1.8	1	1.5

Source : Pakistan Economic Survey 2013-2014

In Pakistan forest area constitutes just around 4.8 per cent or 4.2 million hectares which is far below the internationally acceptable ratio of 20-30 per cent necessary for the balanced economy. In comparison with less than 5% of the national average 17% of the area of Khyber Pakhtunkhwa is decorated with rich and dense forests expanding along the major portion of Hazara and Malakand divisions.

Table 4: Standing Volume of Natural Forests in KPK

SPECIES	VOLUME (BILLIONCFT	% age
Fir/Spruce (Mixed	1.95	39
Blue Pine	1.15	23
Deodar	0.9	18
Fir	0.4	8
Spruce	0.3	6
Chir Pine	0.2	4
Broad Leaved	0.05	1
Scrub	0.05	1
Total	**5**	**100**

More than 70 % of mills are located in Punjab province, 20 % are in Sindh province and 10% are in Khyber Pakhtunkhwa province.

These factors make Khyber Pakhtunkhwa an ideal place for a wood based industry like paper with regard to availability of raw material and lack of competition in the area compared to other provinces.

Types of paper Produced in Pakistan

- Writing and printing paper
- Packaging board
- Liner board (A type of paperboard used in making corrugated cartons)
- Corrugate medium
- Continuous computer reels
- Tissue and Security/banknote paper

1.4 Paper Board Introduction

Paperboard is a thick paper-based material. While there is no rigid differentiation between paper and paperboard, paperboard is generally thicker (usually over 0.25 mm, 0.010 in, or 10 points) than paper. According to ISO standards, paperboard is a paper with a basis weight (grams) above 224 g/m2, but there are exceptions. It possesses uniform substance, thickness and moisture profiles, both along and across the sheet. Paperboard can be single- or multi-ply. These should have a clean top liner ply, smooth receptive printing surface, good opacity and good creasing quality. The critical physical strength properties are rigidity and good ply adhesion.

Raw Material Requirements

The basic raw material sources for manufacturing of paper and paper board can be broadly classified into three groups:

Wood based material

Among the wood based raw materials, coniferous pine is in short supply in Pakistan. The soft wood forests in the country exist in extreme northern hills of North West Frontier province and Azad Kashmir which are mostly inaccessible due to lack of suitable communication facilities. Popular and eucalyptus, among the non-coniferous species, are produced mostly on irrigated land. The eucalyptus trees however, more are extensively grown but their plantations are not

yet sufficient to meet pulping requirements of the paper industry. Besides, their cost is significantly higher as compared to other local material available for pulping.

Agricultural wastes

Among the agro-based wastes the following are being extensive used:

Straws

Straws are by-products of cereal crops, the major being wheat and rice. Paper and paper board industry is presently the main user of the marketed supplies of wheat straw. Adequate quantities of wheat straw are available for the industry. Rice straw is generally used as packing material for glass and ceramic products. Its use in paper making is limited as it contains silica and gives some process problems.

Bagasse

It is a well-established raw material for making almost all grades of paper, from fine quality paper to board.

Grasses

There is a wide range of grasses grown in Pakistan which can be used for making pulp and paper. Kahi grass grows wild along the river banks, some quantity are already being use by paper mills. Other grasses available in Pakistan are Bhabbar, Gauj Gumaz, Rhodes Grass, Chorkha, Pawpi, Chari and Dhawar. The main problems for using grasses relate to their collection and procurement.

Other Raw Material

The group of other raw material used for pulp and paper making include the following:

Waste Paper

There are two main sources of collection of waste paper. One is waste paper collected at offices and factories such as government offices, business concerns, banks, newspapers and publishing companies, printing and book binding concerns etc. the other source is waste paper purchased by trash dealers from private persons at their homes. It is estimated that adequate quantities of waste paper are available for use in paper board industry. It is also being imported for the paper industry.

Cotton Linters and Waste

These are available from ginning and spinning operations as their by-products and are used for making pulp of high quality for producing superior paper as well as blending with short fiber pulp produced from wheat straw and grasses. Adequate quantities of cotton linters and wastes are available for paper industry while about 10 % of the cotton waste is also exported from Pakistan.

Pulping Chemicals

The quantity of pulping chemicals required depends on the pulping process. In the case of sulphate pulping, a chemical recovery system which regenerates the cooking chemicals is incorporated in the process. The sulphate pulping process uses sodium sulphate and limestone (calcium Carbonate). The chemicals used in bleaching pulp are chlorine, caustic soda, lime, sodium chlorate and sodium peroxide.

Box Board Making Chemicals

Alum, starch, rosin, clay, soap stone, caustic soda and other chemicals are used at product making stage. Stock is treated with starch to improve adhesion of fibers to each other and with

rosin to prevent the spread of ink, while clay and various chemicals are used to improve weight, opacity and printing qualities. Caustic soda, rosin, starch, alum and limestone are available in adequate quantities for the paper and paper board industry from local sources while other chemical are imported.

Other Consumable Materials

These materials include machine wires, felt, lubricants and all other non-chemical material consumed during the manufacture of pulp and paper board as well as spare parts and tools.

2. Paper Board Manufacturing Process

2.1 Preparation of the Pulp

The preparation of the pulp is the first operation that has to be carried out in the manufacture of paperboard. This process in a non-integrated mill (that which does not produce the pulp itself but rather, receives it in the form of sheets which have to be broken down in water so that the pulp is suitable for use is composed in the following operations:

Disintegration

Disintegration is a mechanical operation by which pulp presented in the form of sheets or pressed boxes and which needs to be broken down is placed in a water suspension. When the mill itself has the facilities for producing the pulp this operation is not required, as the fibrous suspension (water and fibers) passes directly to the refining operation.

Deflaking

Using a machine known as a deflaker the pulp is totally broken down, thus avoiding an excessive consumption of energy in the pulper.

Refining

Refining is the operation in the preparation of the pulp in which, through the action of mechanical work and in the presence of an aqueous medium (water), the morphology of the fibers and their physical-chemical structure is changed.

Each paper requires a particular refining process which improves specific characteristics. With this operation the pulp acquires specific qualities for the production of different types of paper: paper for printing, packaging, plant-based paper, etc.

Mixture of additives:

With the aim of modifying the properties of the pulp, products are added that are classified as additives (loads and pigments, colorings, binding agents, sizing products,

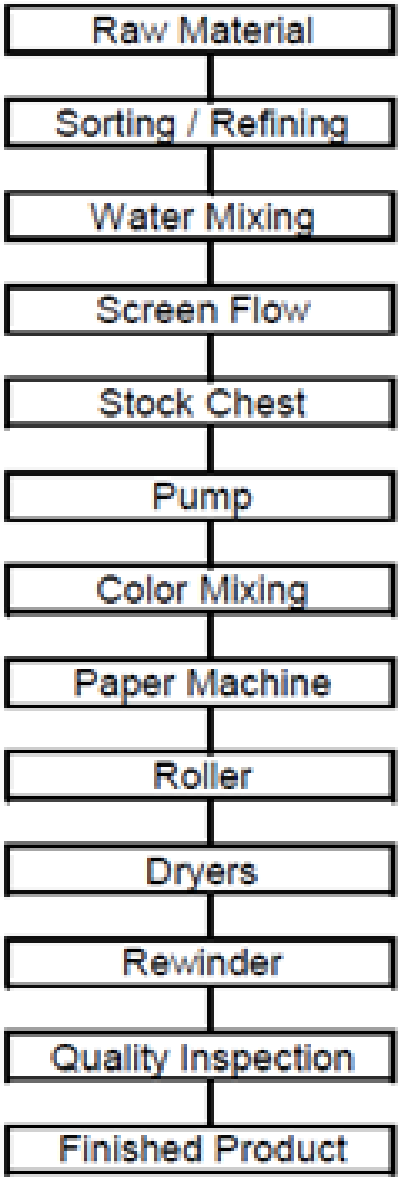


Figure 1 Paper Manufacturing Process

etc.) and auxiliaries (anti-foam, microbicides, retention).

Cleaning:

Aimed at eliminating particles that are undesirable in the formation of the paper. Normally flat vibrating cleaners or pressure closed cleaners are used.

2.2 Sheet Formation

Once the paper pulp has been provided with the necessary properties and the mixture of raw materials has been correctly prepared (fibers, additives, pigments, etc.) in the mixing box, the formation of the sheet will be carried out, which involves transforming a volume of the diluted pulp into a fine, wide and uniform laminate, with all the components perfectly distributed. This laminate forms that which later will be the sheet of paper.

Sheet formation is carried out in two well-differentiated parts of the machine:

- Head box. The head box is responsible for the output of pulp onto the forming table, in the form of a thin, wide and uniform sheet
- Forming table. The forming table is responsible for producing the sheet and reducing part of the water contained by the

2.3 Wet Processing

The paper needs to eliminate the rest of the water it contains therefore a drying procedure is carried out immediately after the forming table. This process is known as wet pressing.

Wet pressing is carried out by passing the sheet between the rolls, in contact with the felt. The rolls put pressure on the paper and manage to extract up to 20% more of the water, while at the same time, they give the paper certain surface and resistance qualities that are favorable for its subsequent use.

2.4 Drying

When the paper comes out of the press section, its water content is usually about 60%. From this point it is not possible to eliminate more water by physical means; this can only be done through the application of heat. This is carried out in the drying operation, whereby the moisture of the paper will be reduced to 5% water, which is the content that it must have at the end of the manufacturing process.

The drying operation is carried out in an area known as the drying section, in which the heat causes the water in the paper to evaporate leaving it dry. At the end of this operation, the paper will have eliminated practically all the water it contained, leaving a slight dampness (approximately 5%) which is necessary in its final composition to maintain elasticity.

The drying operation is the most costly part of the paper manufacturing process. For this reason, special care is required during the development of the operation to reduce costs as much as possible.

2.5 Coating of Paper

Coating can be defined as the operation that consists in covering the surface of a paper or cardboard with a material in liquid form providing the sheet with a series of properties suitable for printing. When the paper has been formed, its surface is not entirely suitable for ink printing. To improve its surface quality so that inks can be applied easily and successfully, coating is carried out which consists of applying a kind of paint that gives the sheet the smoothness and shine necessary for the ink to adapt well to the paper.

With the aim of eliminating or covering the cavities of the paper a series of additives are applied that improve the surface, making it smoother, This operation is carried out exclusively on papers destined for printing or writing.

2.6 Paper Finishing

Calendaring

There are papers which, as they come out of the paper machine and after passing through a coating process, are already suitable for use in ink printing processes. However, there are many others, especially those which require a high surface finish, which have to pass through an operation known as calendaring.

The main purpose of the calendaring operation is to improve the gloss and printing properties of the paper. In the following diagram a general view can be seen of the machine that carries out this process; known as the calendar.

The calendar has a series of rolls (normally 12) positioned one on top of the other, which rotate making the sheet of paper pass between them. Normally one roll made of a hard material (steel) is alternated with another of a soft material (fibrous material), being the metal rolls that give the paper its gloss.

Winding process

Winding is the operation whereby the "jumbo reel" is unwound and cut with the aim of obtaining, after its winding, new smaller reels with a specific diameter and width. In order to check the final quality of the reel a series of tests are conducted: hardness, diameter measurement, density of the reel and strength of friction between layers.

Cutting

The cutting process converts a reel into a series of formats or sheets with the precise measurements required by a customer. The phases into which the process is divided are:

- Unwinding process: the reel is unwound so that the paper can be entered into the cutter.
- Cutting in two stages: two cuts are made; one lengthwise (which determines the final width) and the other; crosswise (which determines the length).
- Detection of defects: for which photoelectric cells are used.
- Conveyor belts: using conveyor belts the sheets are sent to the stacking unit.
- Stacking: the sheets are stacked up for their packaging and subsequent dispatch.

Counting operation: the sheets are counted.

3. Financial Prefeasibility

3.1 Project Design Assumptions

The project aims at the establishment of a Paperboard Manufacturing Unit in KPK. The facility will be constructed over a total land area of 3 acres valued at PKR 4.5 million. 20,000 sq. of this area will be used for the construction of buildings. The rest of the area will be left uncovered. The proposed building will comprises of the following:

- Admin Block
- Boilers
- Processing Section
- Dryer
- Vessels
- Re-winder
- Paper Board Machine
- Quality Inspection
- Roller
- Finished Products Store

Equipment requirements

The following tools will be used in the paperboard manufacturing process:

- Stock Preparation System
- Cylinder Mould Section
- Wire Part
- Press Part
- Pre-Dryer
- Yankee
- After Dryer
- Calendar
- Pope Real
- Mechanical Workshop
- Boiler

Following Office equipment will be required:

- Telephone with connection
- Fax machine
- Computers

- Printers
- Furniture and Fixtures
- Fans & Lights
- Air-conditioning
- Networking

Human resource requirements

Proper training will be provided to workers who are to operate the facility to help them carry out the processes and improve slaughter hygiene and meat quality, reduce raw material losses, increase utilization of by-products, and thereby increase profitability.

Human Resource required for Production Process is as follows:

- GM Factory
- Accountant
- Engineer
- Mechanic-cum electrician
- Skilled Workers
- Semi-Skilled Workers
- Watchman & Gatekeeper

Human resource required for administration and marketing purpose are as follows:

- Chief Accountant
- Accountant
- Sales Supervisor
- Receptionist
- Drivers
- Peon
- Gardener
- Security Guards

3.2 Project set-up Costs

The plant will be built over an area of 3 acres valued at PKR 1.5 million per acre and will require an estimated total project outlay of PKR 164 million. In addition a working capital injection of PKR 15 million will be required initially. Operations will commence in the first year. The project will be funded through both equity and debt in a 40% to 60% ratio. The debt will be repaid over a course of 8 years. An additional grace period of 2 years will be provided. Please refer table below for detailed break up of project set up costs.

Project Capital Cost	
Land 3 acres @ PKR 1.5 million per acre	4,500,000
Buildings (20,000 sft)	24,000,000
Machinery and equipment	
Stock Preparation System	29,400,000
Cylinder Mould Section	3,843,000
Wire Part	20,748,000
Press Part	3,780,000
Pre-Dryer	12,285,000
Yankee	7,665,000
After Dryer	6,300,000
Callender	3,738,000
Pope Real	1,470,000
Mechanical Workshop	4,830,000
Boiler	12,600,000
Generator 100 KVA (1Nos)	2,500,000
Utility connection charges	3,000,000
Furniture, fixtures, office equipment & MIS	5,000,000
Vehicles	**4,000,000**
Interest during construction (IDC)	**14,512,926**
Total Capital Cost	**164,171,926**

3.3 Operating Revenues

The plant will generate revenue from sales of paperboard in its basic form. A capacity utilization rate of 60% has been assumed for the first year of operation keeping in view the duration of establishment of the plant. This rate is expected to increase to 80% in Year 2. A 90% utilization rate is predicted for the continuing years. Revenues have been estimated on the basis of capacity utilization rates, selling prices, and inflation rates. Selling price estimates have been made with regard to the prevailing market prices for the product.

The product will be sold at an average base rate of PKR 22,000 / ton. Selling price is expected to escalate by 8% per year. Total revenue of PKR 184.8 million is estimated for the first year of operation. This figure is expected to rise to PKR 554.12 billion by Year 10.

3.4 Operating Costs

Production Costs

The plant will have an annual production capacity of 14000 tonnes and will be operational for 330 days a year. Preparatory line losses of 22.5% have been allowed for in calculation of the production and sales. An 8% escalation is expected in all production costs. Total operational costs of PKR 208 million are estimated for the first year of operation. This figure is expected to rise to PKR 472.5 million by year 10.

Operating Cost Assumptions	
Raw material (PKR/ Ton)	10,400
Soap Stone PKR/ Ton of raw input	443
Alum PKR/ Ton of raw input	1,518
Caustic Soda PKR/ Ton of raw input	2,783
Average electricity consumption /day KWH	950
Base electricty tariff - PKR/ KWH	20
Average gas consumption per day HM^3	22
Base gas tariff - PKR/ HM3	1,000
Packing cost - PKR/Ton	220

Administrative Costs

Total operational costs of PKR 208 million are estimated for the first year of operation. This figure is expected to rise to PKR 472.5 million by year 10.

Admin & general expenses	
Cost PKR/ month	300,000
Repair & maintenance (as % of P & M cost)	5%
Insurance cost as % of project costs	1%

HR Costs

HR costs comprise of salaries of all individuals involved in the Operation and Administration of the facility. These costs are expected to rise by 8% per year. Total HR costs of PKR 13.4 million have been estimated for the first year of operation. This figure is expected to rise to PKR 26.8 million by the year 10.

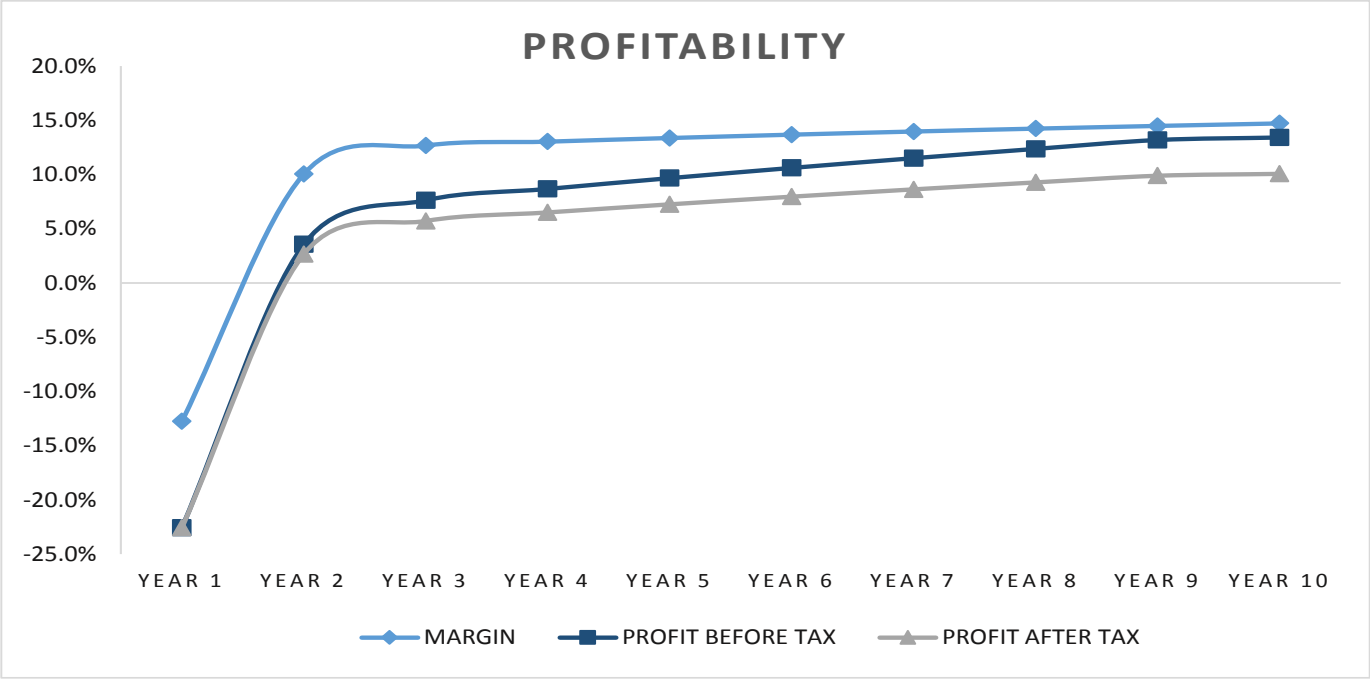
HR cost and assumptions	
Manager and supervisors	7
Skilled and semi-skilled Labor	35
Manager and supervisors (annual salary)	5,040,000
Labor - annual salary cost	8,400,000

3.5 Project Returns

Based on cash flow projections prepared after taking into consideration project set up costs and operating results, the project is expected to generate IRR of 22.50% for the equity investor. Please refer charts on the following page for profitability analysis.

Project Returns	
Project IRR	19.12%
Project NPV @15%	32,256,437

Equity Returns	
Equity IRR	22.50%
Equity NPV @15%	35,544,261


PROFITABILITY
20.0%
15.0%
10.0%
5.0%
0.0%
-5.0%
-10.0%
-15.0%
-20.0%
-25.0%
YEAR 1
YEAR 2
YEAR 3
YEAR 4
YEAR 5
YEAR 6
YEAR 7
YEAR 8
YEAR 9
YEAR 10
MARGIN
PROFIT BEFORE TAX
PROFIT AFTER TAX

4. Annexure

Annex -1 Indicative Financial Statements

Project Balance Sheet

Paperboard Manufacturing Facility
Balance Sheet

Amount in PKR

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Fixed Assets	164,171,926	149,101,486	134,031,046	118,960,607	103,890,167	88,819,727
Current Assets						
Stocks in trade	-	16,618,000	21,571,200	26,209,008	28,305,729	30,570,187
Trade debts	-	15,189,041	21,872,219	26,574,746	28,700,726	30,996,784
Cash & bank balances	15,000,000	(19,945,344)	(11,352,182)	13,069,599	39,454,313	68,912,052
	15,000,000	11,861,697	32,091,237	65,853,353	96,460,768	130,479,023
Total Assets	179,171,926	160,963,183	166,122,284	184,813,960	200,350,935	219,298,750
Share Capital & Reserves						
Share capital	71,668,770	71,668,770	71,668,770	71,668,770	71,668,770	71,668,770
Retained earnings	-	(41,715,223)	(34,620,278)	(16,132,573)	6,586,001	33,935,307
	71,668,770	29,953,548	37,048,493	55,536,198	78,254,772	105,604,077
Long term debt	99,229,056	89,837,953	79,179,051	67,081,197	53,350,133	37,765,375
Current liabilities						
Creditors/ liabilities	-	31,780,579	36,870,857	43,936,143	47,442,108	51,228,105
Tax payable	-	-	2,364,982	6,162,568	7,572,858	9,116,435
Current portion - LT debt	8,274,100	9,391,103	10,658,902	12,097,854	13,731,064	15,584,758
	8,274,100	41,171,682	49,894,740	62,196,565	68,746,031	75,929,298
Total equity & liabilities	179,171,926	160,963,183	166,122,284	184,813,960	200,350,935	219,298,750

Paperboard Manufacturing Facility
Balance Sheet

Amount in PKR

	Year 6	Year 7	Year 8	Year 9	Year 10
Fixed Assets	73,749,287	58,678,848	43,608,408	28,537,968	13,467,528
Current Assets					
Stocks in trade	33,015,802	35,657,066	38,509,631	41,590,402	44,917,634
Trade debts	33,476,527	36,154,649	39,047,021	42,170,783	45,544,445
Cash & bank balances	101,671,020	137,975,116	178,084,833	245,065,205	316,425,675
	168,163,348	209,786,831	255,641,485	328,826,389	406,887,754
Total Assets	241,912,636	268,465,679	299,249,893	357,364,357	420,355,282
Share Capital & Reserves					
Share capital	71,668,770	71,668,770	71,668,770	71,668,770	71,668,770
Retained earnings	66,355,310	104,330,378	148,394,058	199,134,420	254,892,813
	138,024,081	175,999,148	220,062,829	270,803,191	326,561,584
Long term debt	20,076,675	0	-	-	-
Current liabilities					
Creditors/ liabilities	55,316,512	59,731,500	64,499,171	69,647,712	75,207,568
Tax payable	10,806,668	12,658,356	14,687,894	16,913,454	18,586,131
Current portion - LT debt	17,688,700	20,076,675	-	-	-
	83,811,880	92,466,531	79,187,064	86,561,166	93,793,698
Total equity & liabilities	241,912,636	268,465,679	299,249,893	357,364,357	420,355,282

Projected Income Statements

Paperboard Manufacturing Facility
Profit and Loss Account

Amount in PKR

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	184,800,000	266,112,000	323,326,080	349,192,166	377,127,540
Costs					
Raw material	107,016,000	125,798,400	152,845,056	165,072,660	178,278,473
Additives/ chemicals	48,813,188	57,380,400	69,717,186	75,294,561	81,318,126
Packing cost	1,848,000	2,661,120	3,233,261	3,491,922	3,771,275
Salary costs - management	5,040,000	5,443,200	5,878,656	6,348,948	6,856,864
Salary costs - labor	8,400,000	9,072,000	9,797,760	10,581,581	11,428,107
Repair & maintenance	5,607,950	6,056,586	6,541,113	7,064,402	7,629,554
Utilities cost - Electricity	6,935,000	7,489,800	8,088,984	8,736,103	9,434,991
Utilities cost - Gas	8,030,000	8,672,400	9,366,192	10,115,487	10,924,726
Insurance costs	1,641,719	1,723,805	1,809,995	1,900,495	1,995,520
Depreciation	15,070,440	15,070,440	15,070,440	15,070,440	15,070,440
	208,402,297	239,368,151	282,348,643	303,676,599	326,708,077
Margin	(23,602,297)	26,743,849	40,977,437	45,515,567	50,419,462
Other costs					
Admin & general expenses	3,600,000	3,888,000	4,199,040	4,534,963	4,897,760
Financial costs	14,512,926	13,395,923	12,128,124	10,689,172	9,055,962
	18,112,926	17,283,923	16,327,164	15,224,135	13,953,722
Profit before tax	(41,715,223)	9,459,926	24,650,273	30,291,432	36,465,741
Tax	-	2,364,982	6,162,568	7,572,858	9,116,435
Profit after tax	(41,715,223)	7,094,945	18,487,705	22,718,574	27,349,306

Paperboard Manufacturing Facility
Profit and Loss Account

Amount in PKR

	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	407,297,743	439,881,562	475,072,087	513,077,854	554,124,083
Costs					
Raw material	192,540,751	207,944,011	224,579,532	242,545,895	261,949,566
Additives/ chemicals	87,823,576	94,849,462	102,437,419	110,632,412	119,483,005
Packing cost	4,072,977	4,398,816	4,750,721	5,130,779	5,541,241
Salary costs - management	7,405,414	7,997,847	8,637,674	9,328,688	10,074,983
Salary costs - labor	12,342,356	13,329,744	14,396,124	15,547,814	16,791,639
Repair & maintenance	8,239,918	8,899,112	9,611,041	10,379,924	11,210,318
Utilities cost - Electricity	10,189,790	11,004,973	11,885,371	12,836,201	13,863,097
Utilities cost - Gas	11,798,704	12,742,601	13,762,009	14,862,970	16,052,007
Insurance costs	2,095,296	2,200,061	2,310,064	2,425,567	2,546,845
Depreciation	15,070,440	15,070,440	15,070,440	15,070,440	15,070,440
	351,579,223	378,437,066	407,440,395	438,760,689	472,583,142
Margin	55,718,520	61,444,496	67,631,693	74,317,165	81,540,941
Other costs					
Admin & general expenses	5,289,581	5,712,748	6,169,767	6,663,349	7,196,417
Financial costs	7,202,268	5,098,326	2,710,351	-	-
	12,491,849	10,811,073	8,880,118	6,663,349	7,196,417
Profit before tax	43,226,671	50,633,423	58,751,574	67,653,816	74,344,524
Tax	10,806,668	12,658,356	14,687,894	16,913,454	18,586,131
Profit after tax	32,420,003	37,975,067	44,063,681	50,740,362	55,758,393

Projected Cash Flow Statement

Paperboard Manufacturing Facility
Cashflow Statement

Amount in PKR

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Profit before taxation	-	(41,715,223)	9,459,926	24,650,273	30,291,432	36,465,741
Adjustment of non-cash items						
Depreciation	-	15,070,440	15,070,440	15,070,440	15,070,440	15,070,440
Financial charges	-	14,512,926	13,395,923	12,128,124	10,689,172	9,055,962
	-	(12,131,857)	37,926,289	51,848,837	56,051,044	60,592,142
Working capital changes						
current assets	-	(31,807,041)	(11,636,378)	(9,340,335)	(4,222,700)	(4,560,516)
current Liabilities	-	31,780,579	5,090,277	7,065,286	3,505,965	3,785,996
	-	(26,462)	(6,546,101)	(2,275,049)	(716,735)	(774,520)
	-	(12,158,319)	31,380,188	49,573,788	55,334,309	59,817,622
Taxes paid	-	-	-	(2,364,982)	(6,162,568)	(7,572,858)
Interest paid	(14,512,926)	(14,512,926)	(13,395,923)	(12,128,124)	(10,689,172)	(9,055,962)
Cash flow from Operations	(14,512,926)	(26,671,245)	17,984,266	35,080,683	38,482,569	43,188,802
Capital expenditure	(149,659,000)					
Equity	71,668,770					
Debt	107,503,156	(8,274,100)	(9,391,103)	(10,658,902)	(12,097,854)	(13,731,064)
Total cash generated	15,000,000	(34,945,344)	8,593,162	24,421,781	26,384,715	29,457,738
Opening cash	-	15,000,000	(19,945,344)	(11,352,182)	13,069,599	39,454,313
Closing cash	15,000,000	(19,945,344)	(11,352,182)	13,069,599	39,454,313	68,912,052

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